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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KNAUSS, SCOTT A

ART UNIT PAPER NUMBER

2874

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/056,661

Applicant(s)

HIRSCH, GREGORY

Examiner

Scott A Knauss

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,5 and 14-24 is/are rejected.
- 7) ☒ Claim(s) 1-20 and 25-27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.                      6) ☐ Other: .

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The references cited in the information disclosure statement have been considered.

### ***Claim Objections***

2. Claims 1-20 and 25-27 are objected to because of the following informalities. Appropriate correction is required.

Claims 1-20 and 25-27 claim a device but recite method steps, which is improper.

Claim 25 recites the limitations "the optical coating" and "the pressing" which lack antecedent basis.

### ***Claim Rejections - 35 USC § 112***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 14-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 14-17 provide for the use of an x-ray tube, synchrotron radiation, an electron microprobe instrument, and visible, ultraviolet or infrared light, respectively, but since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

6. Claims 14-17 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

7. Claims 18 and 19 are rejected for depending from indefinite claim 17.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1,4 and 21-24 are rejected under 35 U.S.C. 102(b) as being anticipated by US 4,109,369 (Taylor).

Regarding claim 1 Taylor discloses a method of forming an optical device with all the limitations set forth in the claims, including:

Providing a mold (in this case a length of fiber #4)

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Pressing the mold into soft plate (see column 2, lines 5-12)

Removing the mold (see column 2, lines 57-59), leaving a vacant impression

Enclosing the impression using a second plate (#8) to provide for radiation transmission along the axis of the impression.

Regarding claim 4, Taylor discloses placing a second plate #8 to cover the vacant impression left by the mold.

Regarding claim 21, Taylor discloses an optical connector having:

A first soft plate

An impression into the soft plate having an external profile configured for radiation transmission along an axis, and

An enclosure over the impression to provide for radiation transmission along the axis of the impression

Regarding claim 22, Taylor discloses a process for connecting optical fibers comprising steps of

Providing a soft plate (#2)

Placing an impression (#5) into the soft plate having an external profile configured for radiation transmission along an axis

Placing at least one optical fiber into the external profile (see fig. 3, #6,#7)

Enclosing the optical fiber and external profile to permit radiation (light) to travel between the optical fiber and the impression.

Regarding claim 23 Taylor discloses in fig. 3 placing two optical fibers into the external profile from opposite ends of the external profile.

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Regarding claim 24, Taylor discloses that multiple fiber joints may be effected in the same flat surface at any one time (column 2, lines 17-19) thus Taylor discloses the use of multiple impressions in a single soft plate configured for radiation transmission.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor.

Regarding claim 17, Taylor fails to disclose the use of light from the group of visible, ultraviolet or infrared light.

Nevertheless, Taylor does disclose the use of optical fibers in the fiber joint, and such types of light, especially visible light, are well known to be used in optical fibers to

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carry optical signal information. Therefore it would have been obvious to one of ordinary skill in the art to use such types of light in the fiber joint of Taylor in order to carry optical signals.

Regarding claim 18, Taylor discloses in fig. 3 the use of optical fibers (#6,#7) from which light originates.

Regarding claim 19, it is well known in the art to use lasers to supply light to optical fibers, and therefore it would have been obvious to one of ordinary skill in the art to provide light originating from lasers in the device disclosed by Taylor.

13. Claims 1,5 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 3940777 (Faustmann et al) in view of Taylor.

Regarding claims 1,5 and 20, Faustman discloses a method of forming grooves in a substrate in figures 1 and 2 comprising the steps of:

Providing a soft plate (#10) ,

Impressing a mold (wire #16) into the soft plate.

Removing the mold from the soft plate to leave a vacant impression configured for radiation transmission along the axis.

Faustmann does not, however, explicitly disclose enclosing the impression.

Taylor, on the other hand, discloses a similar method of forming a joint for optical fibers in which the impression is enclosed using a plate (#8). Such a configuration is desirable in order to hold a fiber joint within the impression.

Therefore it would have been obvious to one of ordinary skill in the art to provide a cover for the grooved device of Faustmann in order to protect a fiber joint placed

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within the groove.

Regarding claim 20, Faustmann additionally fails to disclose the use of a plurality of wires as molds.

Taylor, on the other hand, further discloses that multiple fiber joints may be effected in the same flat surface at any one time (column 2, lines 17-19) thus Taylor discloses the use of multiple impressions in a single soft plate configured for radiation transmission.

Therefore it would have further been obvious to one of ordinary skill in the art to further modify to method of forming grooves of Faustmann by providing multiple wires as molds in order to form multiple impressions in a substrate, thus enabling a plurality of fiber joints to be formed on a single substrate.

***Allowable Subject Matter***

14. Claim 2,3,6-13 and 25-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and if rewritten to overcome the claim objections set forth above.

Regarding claim 2, the prior art does not teach or fairly suggest etching the mold of claim 1 out of a soft plate.

Regarding claim 3, the prior art does not teach or fairly suggest using two soft plates on either side of the mold in the method of claim 1.

Regarding claim 6, the prior art does not teach or fairly suggest the use of a differential etching process to produce the wire of claim 5.

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Regarding claims 7 and 8, the prior art does not teach or fairly suggest providing two plates of identical or different materials and producing symmetrical or asymmetrical imprints in the device of claim 1.

Regarding claim 9 the prior art does not teach or fairly suggest impressing using rollers in the device of claim 1.

Regarding claims 10 and 11 the prior art does not teach or fairly suggest the use of a mold having an external profile for radiation transmission, wherein the mold is an paraboloid or ellipsoid in claim 1.

Regarding claims 12 and 13 the prior art does not teach or fairly suggest a step of placing a reflection enhancing film on an impression before enclosing the optic in claim 1.

Regarding claim 25, the prior art does not teach or fairly suggest placing an optical coating before a pressing step in claim 1.

Regarding claim 26 the prior art does not teach or fairly suggest the use of a plate having curvature in claim 1.

Regarding claim 27 the prior art does not teach or fairly suggest the use of a plate in claim 1 having a groove to position a mold.

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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US 6,105,395 (Yoshida et al) discloses another method of making an optical connector by pressing a mold into a soft plate, as does US 5,937,128 (Robertsson) and US 5,425,118 (Sugihara et al).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott A Knauss whose telephone number is (703) 305-5043. The examiner can normally be reached on 9-6 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308 - 4819. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.

Scott Knauss

Art Unit 2874

sak  
March 17, 2003

  
HEMANG SANGHAVI  
PRIMARY EXAMINER